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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,863	12/23/2003	Clive Smith	1062-108.US	2833

7590 06/18/2007  
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EXAMINER
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MONIKANG, GEORGE C

ART UNIT	PAPER NUMBER
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2615

MAIL DATE	DELIVERY MODE
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06/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/747,863

Applicant(s)

SMITH, CLIVE

Examiner

George C. Monikang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION*****Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 4-5, 8, 11 & 13 (Application No. 10/747,863, hereinafter referred to as '863) are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 & 14 patent (No. 6,661,897 B2, hereinafter referred to as '897). Although the conflicting claims are not identical, they are not patentably distinct from each other.

The '863 claims 4-5, 8, 11 & 13 are broader recitations of the same invention claimed in '897 claims 1 & 14. Therefore, '897 claims 1 & 14 are encompassed by '863 claims 4-5, 8, 11 & 13. It is critical that patents issuing from these applications be

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commonly owned to avoid potential licensees from owing license fees to two different parties.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 4 & 6 are rejected under 35 U.S.C. 102(e) as being anticipated by  
Grasfield et al, US Patent 6,005,951.

Re Claim 4, Grasfield et al disclose an acoustic-to-electrical transducer for detecting body sounds (col. 9, lines 57-60), the transducer comprising: a diaphragm displacement-to-electrical conversion means to convert diaphragm displacement due to body sound vibrations to electrical signals (abstract: biological activity), said conversion means mounted in a housing; a diaphragm separate from the housing such that the diaphragm can make contact with a body and vibrate in response to body sounds and can be attached or adhered to said body (abstract); said conversion means being mounted in said housing such that the transducer can be positioned near the body to detect diaphragm displacement (abstract).

Re Claim 6, Grasfield et al discloses an acoustic-to-electrical transducer for detecting body sounds (col. 9, lines 57-60), the transducer comprising: a diaphragm mounted in a housing such that the diaphragm can make contact with a body and vibrate in response to body sounds (abstract: biological activity); a diaphragm displacement-to-electrical conversion means to convert diaphragm displacement due to body sound vibrations to electrical signals (abstract: biological activity); and the diaphragm attachment means including a provision for adjustment of diaphragm dynamic characteristics including tension and resonance frequency (col. 8, lines 21-25).

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Greenberger, US Patent, 5,492,129.

Re Claim 17, Greenberger discloses a device for selectively listening to one of many audio signals (abstract), the device comprising: a multi-channel audio signal source connected to electromagnetic output stimulus transducers (abstract; fig 1a: audio in; col. 9, lines 15-20), said stimulus transducers placed at a multitude of sites on the surface of an object (fig 2a: 24a & 82a); an electromagnetic-to-audio signal input transducer connected to an audio output means (col. 4, lines 16-22), said input transducer being sensitive to electromagnetic signals emitted from the stimulus transducers when placed in close proximity to the output stimulus transducers (col. 5, lines 48-50), relative to the distance between said transducers (col. 5, lines 38-42); the process of selecting a given audio signal by moving the input transducer to a selected

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low acoustic impedance placed between the apertures and the internal housing cavity (Pluvinage et al, col. 5, lines 47-51), such that a low impedance acoustic path for ambient sound to enter the housing cavity is maintained (Pluvinage et al, abstract), while moisture and humidity are prevented from entering the cavity (Pluvinage et al, col. 5, lines 47-51).

Claim 12 has been analyzed and rejected according to claim 1.

Claims 5, 8-11 & 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grasfield et al, US Patent 6,005,951, in view of Thomas, US Patent 5,006,952, and further in view of Wright, US Patent 4,986,276.

Re Claim 5, Grasfield et al discloses the transducer according to claim 4, but fails to disclose wherein: the diaphragm includes a conductive surface or plane connected as one electrode of a capacitive transducer (Thomas, col. 1, lines 19-23; col. 10, lines 51-56); the displacement-to-electrical conversion means being a capacitance-to-electrical conversion means with a capacitive electrode mounted in said housing and connected to a circuit such that the diaphragm conductive surface and capacitive electrode form a capacitance (Thomas, col. 10, lines 51-56). Grasfield and Thomas fail to disclose said capacitance changing in response to diaphragm displacement due to body sound vibration (Wright, col. 9, lines 6-8; abstract). However, Wright does.

Taking the combined teachings of Grasfield et al, Thomas and Wright as a whole, one skilled in the art would have found it obvious to modify the transducer of Grasfield et al with wherein: the diaphragm includes a conductive surface or plane

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stimulus transducer site and placing the input transducer close to the stimulus transducer such that the audio signal is coupled to the input transducer for reproduction via the audio output means (col. 5, lines 38-42; abstract).

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grasfield et al, US Patent 6,005,951, in view of Pluvinae et al, US Patent 5,987,146.

Re Claim 1, Grasfield et al discloses a stethoscope with acoustic-to-electrical transducer for detecting body sounds (col. 9, lines 57-60), the transducer comprising: a diaphragm mounted in a housing such that the diaphragm can make contact with a body and vibrate in response to body sounds (abstract: biological activity); a diaphragm

displacement-to-electrical conversion means to convert diaphragm displacement due to body sound vibrations to electrical signals (abstract: biological activity); but fails to disclose the transducer housing having one or more apertures or openings to provide a low-impedance acoustic path for ambient sound to enter the space within the housing including the space behind diaphragm. However, Pluinage et al does (abstract).

Taking the combined teachings of Grasfield et al and Pluinage et al as a whole, one skilled in the art would have found it obvious to modify the stethoscope with acoustic-to-electrical transducer for detecting body sounds (col. 9, lines 57-60), the transducer comprising: a diaphragm mounted in a housing such that the diaphragm can make contact with a body and vibrate in response to body sounds (abstract: biological activity); a diaphragm displacement-to-electrical conversion means to convert diaphragm displacement due to body sound vibrations to electrical signals (abstract: biological activity) of Grasfield et al with the transducer housing having one or more apertures or openings to provide a low-impedance acoustic path for ambient sound to enter the space within the housing including the space behind diaphragm as taught in Pluinage et al (abstract) so that the user can still hear environment noises while using the stethoscope.

Re Claim 2, the combined teachings of Grasfield et al and Pluinage et al disclose the transducer according to claim 1, wherein the apertures can be opened or closed by a user (Pluinage et al, col. 5, lines 47-51).

Re Claim 3, the combined teachings of Grasfield et al and Pluinage et al disclose the transducer according to claim 1, further comprising a moisture barrier with



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connected as one electrode of a capacitive transducer (Thomas, col. 1, lines 19-23; col. 10, lines 51-56); the displacement-to-electrical conversion means being a capacitance-to-electrical conversion means with a capacitive electrode mounted in said housing and connected to a circuit such that the diaphragm conductive surface and capacitive electrode form a capacitance (Thomas, col. 10, lines 51-56) as taught in Thomas with said capacitance changing in response to diaphragm displacement due to body sound vibration (Wright, col. 9, lines 6-8; abstract) as taught in Wright to enhance the mechanical movement of the transducer and to provide a variable pitch audible tone.

Claim 8 has been analyzed and rejected according to claims 4-5.

Re Claim 9, the combined teachings of Grasfield et al, Thomas and Wright disclose the transducer according to claim 8, wherein the AC signals are noise-canceling signals that increase the signal-to-noise ratio of the electrical conversion (Thomas, col. 1, lines 19-27), where the signal is due to body vibration (Grasfield et al, abstract) and the noise is due to ambient sound (Grasfield et al, col. 6, line 60 through col. 7, line 4).

Re Claim 10, the combined teachings of Grasfield et al, Thomas and Wright disclose the transducer according to claim 8, wherein the AC signal is a tracking signal to be used for measurement of diaphragm displacement (Thomas, col. 1, lines 19-27).

Claim 11 has been analyzed and rejected according to claims 4-5.

Claim 13 has been analyzed and rejected according to claims 4-5.

Claim 14 has been analyzed and rejected according to claims 4-5.

Re Claim 15, the combined teachings of Grasfield et al, Thomas and Wright disclose the signal source and electrodes as in claim 14 wherein the capacitance-to-electrical conversion means is a capacitive acoustic-to-electrical transducer for detecting body sounds (Grasfield et al, abstract; Thomas, col. 1, lines 19-23), the transducer being adapted to detect voltage changes on the electrodes, converting such voltage changes to an audio output signal (Wright, abstract).

Re Claim 16, the combined teachings of Grasfield et al, Thomas and Wright disclose the signal source according to claim 14, wherein the signal source comprises, or can be driven by, a computer (Thomas, col. 1, lines 19-23: signal processor).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grasfield et al, US Patent 6,005,951, in view of Dieken, US Patent 5,932,849.

Re Claim 7, Grasfield et al discloses an acoustic-to-electrical transducer for detecting body sounds (col. 9, lines 57-60), the transducer comprising: a diaphragm mounted in a housing such that the diaphragm can make contact with a body and vibrate in response to body sounds (abstract: biological activity); a diaphragm displacement-to-electrical conversion means to convert diaphragm displacement due to body sound vibrations to electrical signals (abstract: biological activity); and a second transducer (col. 2, lines 3-4); but fails to disclose the second transducer being an acoustic-electric transducer mounted within housing to convert sound within the housing cavity to an electrical signal. However, Dieken does (abstract).

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Taking the combined teachings of Grasfield et al and Dieken as a whole, one skilled in the art would have found it obvious to modify the acoustic-to-electrical transducer for detecting body sounds (col. 9, lines 57-60), the transducer comprising: a diaphragm mounted in a housing such that the diaphragm can make contact with a body and vibrate in response to body sounds (abstract: biological activity); a diaphragm displacement-to-electrical conversion means to convert diaphragm displacement due to body sound vibrations to electrical signals (abstract: biological activity); and a second transducer (col. 2, lines 3-4) of Grasfield et al with the second transducer being an acoustic-electric transducer mounted within housing to convert sound within the housing cavity to an electrical signal as taught in Dieken (abstract) to provide shock attenuation and vibration isolation.

### **Contact**

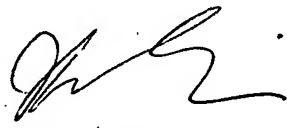
Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Monikang whose telephone number is 571-270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

George Monikang

6/10/2007



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